To: Mark Levin[mark.levin@minenv.com]

**Cc:** willbere@rvi.net[willbere@rvi.net]; Way, Steven[way.steven@epa.gov]

From: Sorrenson - DNR, Allen Sent: Wed 7/22/2015 2:20:42 PM

Subject: Re: Grout Supplies

jenmar jplug.pdf

Thanks for all this info Mark. We're going to go with the Type V ultrafine (see separate email to Matt Francis). Attached is information on the chemical grout I was looking into. It's interesting, but we'd like to go to with cement grout for the Red and Bonita bulkhead.

There is a small volume critical path element to the grouting. There are two packer test drill holes in the ribs within the bulkhead location that need to be grouted prior to air side form construction. There are three other packer test holes outby the bulkhead that can be grouted at the time of contact grouting.

-Allen

On Tue, Jul 21, 2015 at 12:47 PM, Mark Levin <mark.levin@minenv.com> wrote:

HI Jeff:

It might be possible to substitute if we can demonstrate that it has superior acid and sulfate resistance to Type V based grout – do you have any tech data?

#### Mark Levin, P.E.

General Manager

Office: (303) 567-4174



#### **MES MINING**

Division of Mining & Environmental Services LLC

P.O. Box 1511, Idaho Springs, CO 80452

### www.minenv.com

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From: Jeff Stokke [mailto:jeff@surecrete.com]
Sent: Tuesday, July 21, 2015 12:45 PM
To: Mark Levin <mark.levin@minenv.com>

Subject: RE: Grout Supplies

Mark,

The guys that we're making grout using the Type V have switched over to using a blend of normal cement with silica fume based on a paper stating that this gives protection that is superior to the straight Type V. I think this puts me back to the beginning again as I doubt this is a battle worth your time to explore for only a pallet of grout.



# Jeff Stokke

Vice President

Surecrete Inc.

155 NE 100th St., Suite 300

Seattle, WA 98125

P: 206/523-1233

F: 206/524-6972

**OUR WEBSITE - TWITTER - LINKEDIN** 

From: Mark Levin [mailto:mark.levin@minenv.com]

Sent: Friday, July 17, 2015 1:49 PM

To: Jeff Stokke

Subject: RE: Grout Supplies

Jeff, we need a pallet at most. If you have a Type V mix that you want to quote, I would welcome it. Even if expensive, it would be better than trial and error testing here, since we need to have some within 2 weeks at most. Delivery would be to Silverton, CO.

## Mark Levin, P.E.

General Manager

Office: (303) 567-4174



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From: Jeff Stokke [mailto:jeff@surecrete.com]

Sent: Friday, July 17, 2015 2:46 PM

To: Mark Levin

Subject: RE: Grout Supplies

I can get what you need up here but the small quantity would be a challenge as it's not an off the shelf product. If you strike out with US Mix, you may need to resort to the ultrafine. With it being such a small quantity, I doubt it would make a huge difference in your overall budget so there are some advantages to the small quantity problem.



# Jeff Stokke

Vice President

### Surecrete Inc.

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From: Mark Levin [mailto:mark.levin@minenv.com]
Sent: Wednesday, July 15, 2015 8:03 PM

To: Jeff Stokke
Cc: willbere@rvi.net

Subject: RE: Grout Supplies

HI Jeff:

Thanks for getting back to me.

This particular project calls for a Type V Portland cement neat grout. As you point out, there are sources for straight Type V Portland.

As clarification, we are hoping to find a vendor who supplies a pre-mixed stable grout based on a Type V cement, with superplasticizer and shrinkage control agents, etc. already in it and some test data behind it. I think we may have located a local vendor who can supply that. Since the quantities are very small on this job, I did not want to have to go through the mix development and testing that would be necessary if we just bought the Type V Portland and started experimenting with additives.

If the local vendor can't do it, US Grout can, although that gets us into more costly microfine, which is beyond the specs, but not harmful.

The microfine/ultrafine, etc. that we used to use as a final seal for mine bulkhead contact grouting has pretty much been replaced with a pre placed chemical grout injection tube ring array – we generally use DeNeef injecto tube around the mine plug and then perform that step after the cement grouting, using a very fluid (200 centipoise) chemical grout. One big advantage is that it is very expansive, and actually seeks out water molecules to bond with. Cost is reasonable – perhaps \$1500 and the entire project is done with one 5 gallon can usually – that expands by a factor of 12 to 14!

Since we pioneered that method at the Dinero tunnel project in 2009, it has become part of the CO state specs for mine bulkheads, and now EPA seems to be picking up on it as well, at least in this area. We include it in all the bukheads we design, when we are the designer.

There is still application for microfine, ultrafine, etc in some formation grouting, of course.. We still have some leftover pallets of Nittetsu that we got from you guys a long time ago, in storage in a container. But since we changed over to the chemical grout for final bulkhead seals, it has not had an application yet.

As far as hardware, I think we're good at the moment, but I have told our shop foreman (Thaddeus Kehr) if he needs anything more to send to the project, to give you guys a call. He is going through all the small grout stuff now and may do that once we see what is missing or damaged from the last few jobs.

Best Regards,

Mark Levin, P.E.

General Manager

Office: (303) 567-4174



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From: Jeff Stokke [mailto:jeff@surecrete.com]
Sent: Wednesday, July 15, 2015 2:07 PM

To: Mark Levin

Cc: <a href="mailto:brooke@surecrete.com">brooke@surecrete.com</a> Subject: RE: Grout Supplies

Mark,

Apparently Type 5 cement in 94 lb. bags is readily available in Denver / Salt Lake and most places keep 2 or 3 pallets in stock. If you need more, figure a week just to be on the safe side. All the plugs we've been involved with had the contractor go back and skin grout using ultrafine as well as the Portland just to make sure there is no seepage between plug and mine wall, but these were all acidic water jobs so that might not be the case at your job.

What else would you need? Hoses, packers, grout plants etc? I think Fred said soothing about admixtures. If you're looking for a small amount of superplasticizer I would bum some off of your ready mix guys, but let me know.

I think your gal called to confirm you had an account so we're good to go if you need to order something.

 $\mathcal{A}$ 

Jeff Stokke

Vice President

#### Surecrete Inc.

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From: Mark Levin [mailto:mark.levin@minenv.com]

Sent: Monday, July 13, 2015 2:53 PM

To: Jeff Stokke/ Surecrete Inc., Cc: thaddeus28kehr@gmail.com Subject: Grout Supplies

Hi Jeff:

Please give me a call. I need to order some grouting supplies. Was talking with Fred and I'm not sure he understood me.

# Mark Levin, P.E.

General Manager

Office: (303) 567-4174



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From: Jeff Stokke/ Surecrete Inc., [mailto:jeff@surecrete.com]

Sent: Wednesday, February 04, 2015 6:31 PM To: Mark Levin Subject: Re: Bagged Grout Mix - Quote request Hi Mark, Having a batch plant near is a real luxury for a mine project. It's what I would do as well. Not applicable here as I don't want to get into your ready mix guys business but we have a line waterproofing products that are equal to xypex and kryton, but less expensive. Just keep us in mind. Jeff Sent from my Verizon Wireless 4G LTE DROID Mark Levin <mark.levin@minenv.com> wrote: Jeff, for the bulkhead itself, we'll be able to have a local batch plant make our standard SCC mix with 3% Xypex and deliver it to the site in ready mix trucks, so mixing super sacked small batches would not be desirable, especially as there likely will be volume well in excess of 80 CY. I'll keep your bagged product in mind for future sites without nearby ready mix plants or access suitable for volumetric mix truck. There is a potential for a larger grouting program bring required which may necessitate larger volume super sacked product.

General Manager

Mark Levin, P.E.

MES Mining
Office: (303) 567-4174
from my cell phone
MES MINING
Division of Mining & Environmental Services LLC
P.O. Box 1511, Idaho Springs, CO 80452
www.minenv.com
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Jeff Stokke < <u>jeff@surecrete.com</u> > wrote:
Hello Mark,

What are you using for concrete for the plug? We did a very reasonably priced and flowable bag mix for Holden Mine last year. The mix was mixed in an auger mixer and then into a concrete pump. This was not the fastest, but if you could get an old ready mix truck up there you would be in business. We could get this mix out of Portland.



# Jeff Stokke

Vice President

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**BOOTH** 

#542

From: Mark Levin [mailto:mark.levin@minenv.com]

Sent: Tuesday, February 03, 2015 4:50 PM

To: Fred Sherrill

Subject: Re: Bagged Grout Mix - Quote request

OK thanks!

Mark Levin, P.E.
General Manager
MES Mining
Office: (303) 567-4174
from my cell phone
MES MINING
Division of Mining & Environmental Services LLC
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Fred Sherrill < Fred@surecrete.com > wrote:
Hi Mark,
4 Pallets = (168) 55# Bags of Target 1118 Grout
Your cost: \$2,987.00 FOB Seattle Warehouse
I'm waiting to hear back from someone to give you a good rate on freight—I should have something for you tomorrow AM.
Call me if you have any questions.
Thank you,
Fred Sherrill
President of Surecrete Inc.
155 NE 100th St., Suite 300
Seattle, WA 98125
P: 206/523-1233

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delete the message. Thank you Sent from my Verizon Wireless 4G LTE DROID

F: 206/524-6972

From: Mark Levin [mailto:mark.levin@minenv.com]

Sent: Tuesday, February 03, 2015 11:01 AM To: Fred A. Sherrill; <a href="micole@surecrete.com">nicole@surecrete.com</a> Subject: Bagged Grout Mix - Quote request

Hi Fred / Nicole:

We are looking for some grout mix for a mine bulkeading job at the Formosa mine, near Medford, Oregon. We are looking for something less expensive than a superfine type grout. This would be for injecting the rock around the bulkhead perimeter, using holes to about 12 ft depth to prevent leakage through the blast shattered area.

Can you quote in pallet quantities and also send spec sheets, please? I will need bag pricing and also typical yield per bag.

Thanks,

Mark Levin, P.E.

General Manager

Office: (303) 567-4174



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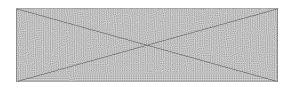
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Allen C. Sorenson

Project Manager/Geological Engineer

Inactive Mine Reclamation Program



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1313 Sherman Street #215, Denver, CO 80203

allen.sorenson@state.co.us | www.mining.state.co.us